

The **BA212 Pageant power isolator** is a single channel galvanically isolated power supply with associated apparatus intrinsic safety certification. It is primarily intended for powering BEKA Pageant intrinsically safe display equipment in a group IIB or IIA flammable gas or combustible dust atmosphere. For powering Pageant display equipment in a IIC gas, the BEKA BA243 power isolator should be used.

The BA212 power isolator may also be used to power other intrinsically safe hazardous area apparatus having compatible intrinsic safety input parameters.

IECEX, ATEX and UKCA intrinsic safety associated apparatus certification permits worldwide installation. To achieve a 4.4W output the isolator employs multiple active voltage and current limitation resulting in an Ex ia IIC intrinsically safe output.

The primary application of the BA212 isolator is powering equipment in groups IIB (ethylene) or IIA (propane), flammable gas, or in a combustible dust atmosphere. Although the isolator has IIC (hydrogen) certification, because of the high output power, the IIC output cable parameters are restrictive and only allow the isolator to be separated from the hazardous area load by a few metres.

For similar applications in a group IIC gas, the BEKA BA243 Power Isolator should be used. This remotely combines four isolated channels to provide 4.4W output and permit long cables between the isolator and the hazardous area load.

Twisted pair cables with L/R ratios compatible with the BA212 Power Isolator's IIB and IIA output safety parameters are widely available. These allow the BA212 and the hazardous area load to be separated by typically 100 metres for IIB applications and greater distances for applications in a IIA gas atmosphere. Maximum cable length is usually determined by the acceptable voltage drop resulting from the cable resistance.

The isolator enclosure, which is moulded in ABS and polycarbonate, is DIN rail mounting and only 22.5mm wide making it compatible with many proprietary galvanic isolators and Zener barriers. The BA212 may be installed in a safe area or with additional mechanical protection in Zone 2 or 22. To simplify installation and inspection the terminals are colour coded and the hazardous area output terminals are removable. The isolator's status is indicated by two green LEDs adjacent to the input and the output terminals.

For Zone 2 mounting the BA212 has IECEX, ATEX and UKCA Ex ec increased safety component certification. These certificates specify that for installation in Zone 2 the BA212 Power Isolator should be mounted in an enclosure providing IP54 protection and complying with the enclosure requirements specified in the increased safety standard IEC 60079-7.

Application Guide AG210 contains additional information about the BA212 and 243 Power isolators

BA212

Pageant Power Isolator IIA & IIB Applications

*Intrinsically safe supply for
BEKA Pageant Display
Products*

- ◆ For powering equipment in a IIB or IIA gas group.
- ◆ IECEX, ATEX and UKCA Ex ia certification.
- ◆ 4.4W typical output
- ◆ Safe area or Zone 2 mounting.
- ◆ DIN rail mounting
- ◆ 3 year guarantee

www.beka.co.uk/ba212



BEKA

associates

BEKA associates Ltd. Old Charlton Rd.
Hitchin, Hertfordshire, SG5 2DA, U.K.
Tel. (01462)438301 e-mail sales@beka.co.uk
website: www.beka.co.uk

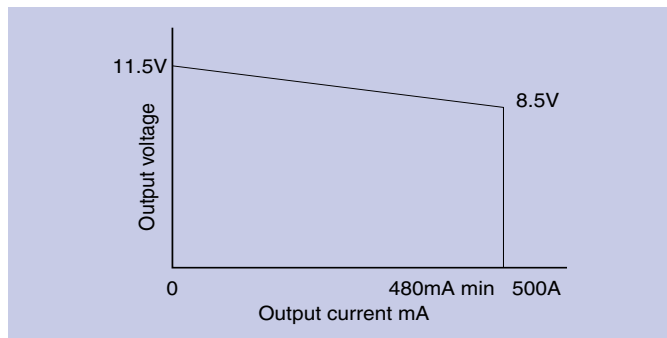
SPECIFICATION

Power supply

| | |
|---------|---|
| Voltage | 20 to 30V dc |
| Current | 320mA typical at 24V with maximum load. |

Output

| | |
|--------------------|----------------------------|
| Voltage | |
| No load | 11.7V dc typical |
| Full load | 8.8V typical 8.5V min |
| Current limited at | 500mA typical 480mA min |



Typical output characteristic

Certification

Intrinsic safety associated apparatus

International IECEx

| | |
|-------------|------------------------------------|
| Standards | IEC 60079-0 and IEC 60079-11 |
| Code | [Ex ia Ga] IIC |
| Temperature | -40°C ≤ Ta ≤ +70°C |
| Cert. No. | IECEX CML 20.0080X |

Safety parameters

| | |
|-------|---|
| Input | |
| Um | 30V max dc from a SELV, PELV or supply providing double or reinforced insulation. |

Output

| Gas group | IIC | IIB | IIA |
|-----------|---------|--------|--------|
| Uo | 12.4V | 12.4V | 12.4V |
| Io | 2.66A | 2.66A | 2.66A |
| Po | 5.2W | 5.2W | 5.2W |
| Co | 1.24µF | 7.9µF | 30.0µF |
| Lo | 5µH | 20µH | 40µH |
| Lo/Ro | 4.3µH/Ω | 17µH/Ω | 34µH/Ω |

For recommended cables and maximum permitted lengths see Application Guide AG210

Europe ATEX and United Kingdom UKCA

| | |
|------------|---|
| Standards | EN IEC 60079-0 and EN 60079-11 |
| Code | Group II Category (1) G [Ex ia Ga] IIC |
| Cert. No.s | CML 20ATEX2122X and CML 21UKEX2278X |

Safety parameters As IECEx

Note: X suffix on IECEx, ATEX and UKCA certificates relates to Um and supply requirements.

Increased safety

International IECEx

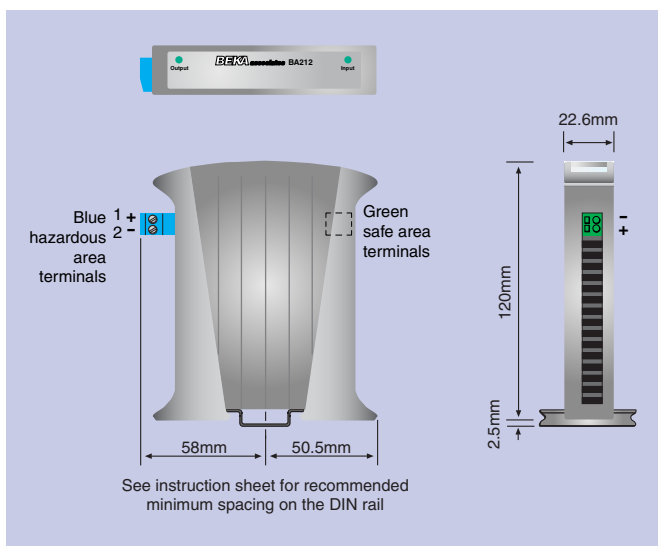
| | |
|-------------|------------------------------------|
| Standard | IEC 60079-7 |
| Code | Ex ec [ia Ga] IIC Gc |
| Temperature | -40°C ≤ Ta ≤ +70°C |
| Cert. No. | IECEX CML 20.0081U |

Europe ATEX and United Kingdom UKCA

| | |
|-------------|---|
| Standard | EN IEC 60079-7 |
| Code | Group II Category 3 (1) G Ex ec [ia Ga] IIC Gc |
| Temperature | -40°C ≤ Ta ≤ +70°C |
| Cert. No.s | CML 20ATEX3123U and CML 21UKEX3279U |

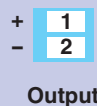
Note: These Ex ec component certificates are intended to be used with an Ex e enclosure component certificate.

DIMENSIONS (mm)



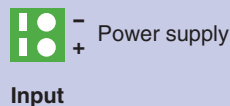
TERMINAL CONNECTIONS

Hazardous area terminals



Output

Safe area terminals



Input

Environmental

| | |
|----------------|-------------------------------|
| Operating temp | -40 to +70°C |
| Storage temp | -40 to +85°C |
| Humidity | To 95% @ 40°C non condensing. |

Enclosure

| | |
|----------|---|
| Material | Polycarbonate and ABS moulding UL94 V0 fire rating |
|----------|---|

Protection

IP20

EMC

Complies with EU and UK EMC Directives

Mechanical

| | |
|----------------|--|
| Terminals | |
| Safe area | Spring loaded for 0.5 to 1.5mm ² single wire. |
| Colour | Green |
| Hazardous area | Removable terminal block Screw clamp for 0.5 to 1.5mm ² wire |
| Colour | Blue |
| Weight | 0.12kg |

Accessories

| | |
|------------|---|
| Tag number | Thermally printed strip on top of the isolator. |
|------------|---|

HOW TO ORDER

| | |
|--------------|---|
| Model number | Please specify BA212 |
| Accessories | Please specify if required Legend |
| Tag strip | |



**SCATTERGOOD
& JOHNSON LTD**
ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product manufacturers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

www.scatts.co.uk